



Size: 4in x 2.25in x 0.75in (101.6mm x 57.2mm x 0.75mm)

OPTIONS

- Single or Dual Output
- Positive or Negative Logic
- Assembly Option
 - Enclosed
 - Din Rail
 - Enclosed & Din Rail

APPLICATIONS

- Wireless Network
- Telecom/Datacom
- Industry Control System
- Measurement Equipment
- Semiconductor Equipment

FEATURES

- 4:1 Ultra Wide Input Range
- No Minimum Load Required
- 1600VDC Input to Output Isolation
- Screw Terminals for Input and Output Connections
- Internal Input Fuse Protection
- Internal Output LED Indicator
- RoHS II and REACH Compliant
- Over Voltage, Over Load and Short Circuit Protection
- Remote Control
- CE Marked
- Meets EN55022 Class B
- Safety Meets UL60950-1, EN60950-1, and IEC60950-1

DESCRIPTION

The DCMD20W series of DC/DC converters offers up to 20 watts of output power in a 4in x 2.25in x 0.75in chassis mount, enclosed, din rail or enclosed din rail package. This series consists of single and dual output models with 4:1 ultra-wide input range. Each model has an internal output LED indicator, internal input fuse protection, screw terminals for input and output connectors, as well as remote control. This series also has over voltage, over load, and short circuit protection, RoHS II and REACH compliance, and UL60950-1, EN60950-1, and IEC60950-1 safety approvals. Please call factory for order details.

MODEL SELECTION TABLE

Single Output Models

Model Number ⁽¹⁾	Input Voltage Range	Output Voltage	Output Current	Ripple & Noise	No Load Input Current	Maximum Capacitive Load ⁽²⁾	Efficiency	Output Power
DCMD20W-24S33X	24VDC (9.5~36VDC)	3.3VDC	5500mA	60mVp-p	51mA	18000µF	84%	Up to 20W
DCMD20W-24S05X		5VDC	4000mA	75mVp-p	66mA	9600µF	87%	
DCMD20W-24S12X		12VDC	1670mA	75mVp-p	25mA	1650µF	85%	
DCMD20W-24S15X		15VDC	1330mA	75mVp-p	26mA	1050µF	85%	
DCMD20W-48S33X	48VDC (18~75VDC)	3.3VDC	5500mA	60mVp-p	36mA	18000µF	84%	
DCMD20W-48S05X		5VDC	4000mA	75mVp-p	36mA	9600µF	87%	
DCMD20W-48S12X		12VDC	1670mA	75mVp-p	17mA	1650µF	86%	
DCMD20W-48S15X		15VDC	1330mA	75mVp-p	17mA	1050µF	86%	

MODEL SELECTION TABLE

Dual Output Models

Model Number ⁽¹⁾	Input Voltage Range	Output Voltage	Output Current	Ripple & Noise	No Load Input Current	Maximum Capacitive Load ⁽²⁾	Efficiency	Output Power
DCMD20W-24D05X	24VDC (9.5~36VDC)	±5VDC	±2000mA	100mVp-p	58mA	±4800µF	87%	Up to 20W
DCMD20W-24D12X		±12VDC	±833mA	100mVp-p	33mA	±825µF	86%	
DCMD20W-24D15X		±15VDC	±667mA	100mVp-p	34mA	±525µF	86%	
DCMD20W-48D05X	48VDC (18~75VDC)	±5VDC	±2000mA	100mVp-p	25mA	±4800µF	88%	
DCMD20W-48D12X		±12VDC	±833mA	100mVp-p	19mA	±825µF	87%	
DCMD20W-48D15X		±15VDC	±667mA	100mVp-p	19mA	±525µF	87%	

SPECIFICATIONS

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION				TEST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS									
Input Voltage Range	24Vin (Nominal)			9.5	24	36	VDC		
	48Vin (Nominal)			18	48	75			
Start-Up Voltage	24Vin (Nominal)					9.5	VDC		
	48Vin (Nominal)					18			
Shutdown Voltage	24Vin (Nominal)				7.5		VDC		
	48Vin (Nominal)				15				
Input Surge Voltage (100ms, max.)	24Vin (Nominal)					50	VDC		
	48Vin (Nominal)					100			
Input Fuse (Slow Blow)	24Vin (Nominal)				6		A		
	48Vin (Nominal)				4				
Inrush Current					15		A		
Input Reflected Ripple Current	Nominal Input and Full Load				10		mAp-p		
OUTPUT SPECIFICATIONS									
Output Voltage				See Table					
Voltage Accuracy	3.3Vout			-1.5		+1.5	%		
	Others			-1.0		+1.0			
Line Regulation	Low Line to High Line @Full Load	Single		-0.2		+0.2	%		
		Dual		-0.5		+0.5			
Load Regulation	No Load to Full Load	3.3Vout		-1.5		+1.5	%		
		Others		-1.0		+1.0			
Voltage Adjustability	Single Output			-10		+10	%		
Cross Regulation	Asymmetrical Load 25%/100% Full Load, Dual Outputs			-5.0		+5.0	%		
Output Power				See Table					
Output Current				See Table					
Maximum Capacitive Load				See Table					
Ripple & Noise (20MHz bandwidth)	Measured by 20MHz Bandwidth	Single	3.3Vout		60		mVp-p		
			5, 12, 15Vout		75				
		Dual			100				
Transient Response Recovery Time	25% Load Step Change				250		µS		
Start-Up Time	Constant Resistive Load	Power Up			100		ms		
		Remote ON/OFF			20				
Temperature Coefficient				-0.02		+0.02	%/°C		
Output Indicator				Green LED					
REMOTE ON/OFF CONTROL ⁽³⁾									
Positive Logic (Standard)	DC-DC ON			Open or 3~12VDC					
	DC-DC OFF			Short of 0~1.2VDC					
Negative Logic (Option)	DC-DC ON			Short or 0~1.2VDC					
	DC-DC OFF			Open or 3~12VDC					
Input Current of CTRL Pin				-0.5		0.5	mA		
Remote OFF Input Current					2.5		mA		
PROTECTION									
Short Circuit Protection				Continuous, Automatic Recovery					
Over Load Protection	% of Iout Rated				150		%		
Over Voltage Protection	Zener Diode Clamp	3.3Vout			3.9		VDC		
		5Vout			6.2				
		12Vout			15				
		15Vout			18				
ENVIRONMENTAL SPECIFICATIONS									
Operating Temperature	Without Derating			-40		+75	°C		
	With Derating			+75		+91			
Storage Temperature				-40		+105	°C		
Thermal Shock				MIL-STD-810F					
Relative Humidity				5		95	%RH		
Vibration	Chassis Mount Models			MIL-STD-810F					
	Enclosed Models			MIL-STD-810F					
	DIN Rail Models			IEC60068-2-6					
	Enclosed & DIN Rail			IEC60068-2-6					
MTBF	MIL-HDBK-217F, Full Load				1,966,000		Hours		

SPECIFICATIONS

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SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
GENERAL SPECIFICATIONS						
Efficiency			See Table			
Switching Frequency			360	400	440	kHz
Isolation Voltage	1 Minute	Input to Output	1600			VDC
		Input (Output) to Chassis	1600			
Isolation Resistance	500VDC		1			GΩ
Isolation Capacitance					400	pF
PHYSICAL SPECIFICATIONS						
Weight			3.13oz (89g)			
Dimensions (L x W x H)	Chassis Mount	4in x 2.25in x 0.75in (101.6mm x 57.2mm x 19.1mm)				
	Enclosed Mount	4in x 2.25in x 0.79in (101.6mm x 57.2mm x 20.1mm)				
	DIN Rail Mount	4in x 2.25in x 1.09in (101.6mm x 57.2mm x 27.8mm)				
Chassis Material			Aluminum			
SAFETY CHARACTERISTICS						
Safety Approvals			UL60950-1 EN60950-1 IEC60950-1			
EMI	EN55022	Class B				
ESD	EN61000-4-2	Air ±8kV and Contact ±6kV	Perf. Criteria A			
Radiated Immunity	EN61000-4-3	10V/m	Perf. Criteria A			
Fast Transient	EN61000-4-4	±2kV	Perf. Criteria A			
Surge	EN61000-4-5	±0.5kV	Perf. Criteria A			
Conducted Immunity	EN61000-4-6	10Vr.m.s	Perf. Criteria A			
Power Frequency Magnetic Field	EN61000-4-6	100A/m continuous; 1000A/m 1 Second	Perf. Criteria A			

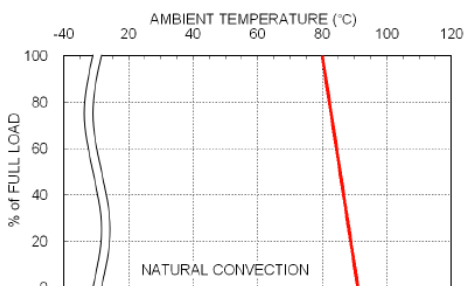
NOTES

- "X" in product name indicates assembly option types. "X" will be "U" for Chassis Mount, "C" for Enclosed Mount, "D" for DIN Rail Mount, or "ED" for Enclosed & DIN Rail Mount.
- Test by minimum input and constant resistive load.
- Referred to -Vin pin.

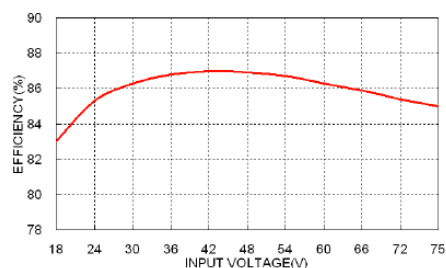
**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES

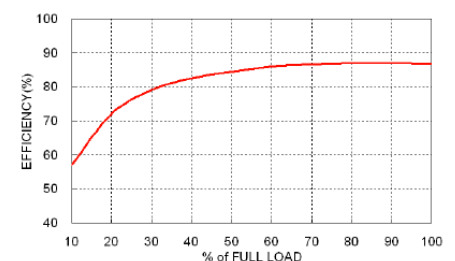
DCMD20W-48S05X Derating Curve



DCMD20W-48S05X
Efficiency vs. Input Voltage

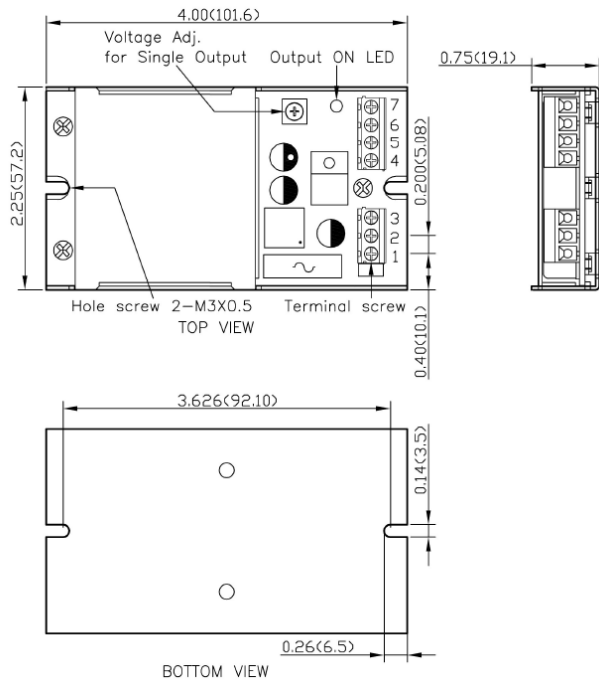


DCMD20W-48S05X
Efficiency vs. Output Load



MECHANICAL DRAWINGS

Chassis Mounting Type



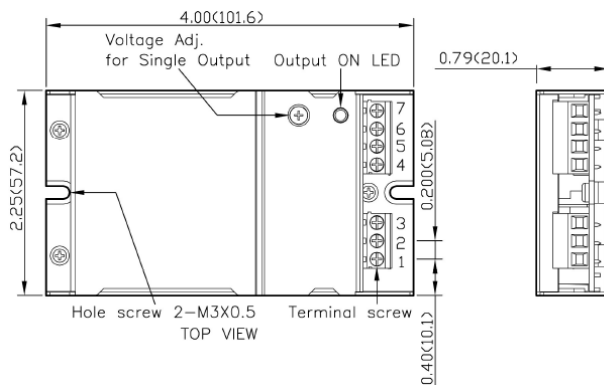
Pin Connection

PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
3	Ctrl	Ctrl
4	NC	NC
5	-Vout	-Vout
6	+Vout	Common
7	NC	+Vout

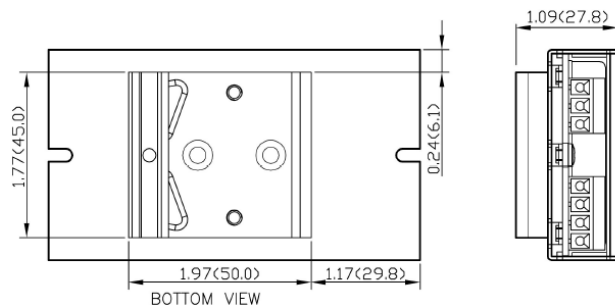
NC: No Connection

Screw Terminals- wire range from 14 to 18 AWG

Enclosed Mounting Type



DIN Rail Mounting Type



NOTES:

1. All dimensions in Inch (mm)
2. Tolerance: X.XX±0.02 (X.X±0.5)
3. Tolerance: X.XXX±0.01 (X.XX±0.25)
4. Hole Screw Locked Torque:
MAX 5.0kgf-cm (0.49N-m)
5. Terminal Screw Locked Torque:
MAX 2.5kgf-cm (0.25N-m)

MODEL NUMBER SETUP

DCMD	20	W	-	48	S	05	U	N
Series Name	Output Power	Input Range		Input Voltage	Output Quantity	Output Voltage	Assembly Option	Remote Control Option
	20: 20 Watts	4:1		24: 9.5~36VDC 48: 18~75VDC	S: Single D: Dual	33: 3.3VDC 05: 5VDC 12: 12VDC 15: 15VDC 05: ±5VDC 12: ±12VDC 15: ±15VDC	U: U-Chassis C: Enclosed D: DIN Rail ED: Enclosed & DIN Rail	None: Positive Logic N: Negative Logic

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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